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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/771,582	02/04/2004	Phil Patterson	B00-018D	3804

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THE GATES CORPORATION  
IP LAW DEPT. 10-A3  
1551 WEWATTA STREET  
DENVER, CO 80202

EXAMINER

YAO, SAMCHUAN CUA

ART UNIT	PAPER NUMBER
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1733

DATE MAILED: 05/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/771,582

Applicant(s)

PATTERSON ET AL.

Examiner

Sam Chuan C. Yao

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 2/4/4 16 May 2005
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 02-04-04
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 112.***

1. Claim 6 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

This claim is indefinite, because the phrase "*the step of venting gases ...*" does not have a positive antecedent basis. Is the venting step in this claim referring to the evacuation step in claim 1? For the purpose of examining this claim, it is assumed that the venting step is different from the evacuation step.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-2 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brooks (US 4,106,966) in view of Rosenboom et al (US 6,464,607), Noto (US 5,925,297) and Fix (US 3,656,360).

Brooks discloses a process of making power transmission belts, the process comprises wrapping a 1<sup>st</sup> polymeric material (58) onto a building drum (60); spirally winding tensile cords (24) onto the 1<sup>st</sup> polymeric material; wrapping a 2<sup>nd</sup> polymeric material (62) onto the tensile cord layer to form a belt sleeve (57); placing a jacket over the belt sleeve; placing them to a curing device (65); introducing a 1<sup>st</sup> pressurized steam

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within the drum; introducing 2<sup>nd</sup> pressurized steam between the outside surface of the jacket and curing device; curing the belt sleeve; cooling drum/sleeve/jacket by submerging them into a coolant; separating the drum and the jacket from the belt sleeve; and then cutting the belt sleeve into a plurality of transmission belts (col. 3 line 7 to col. 6 line 56). Although not explicitly disclosed, the 1<sup>st</sup> and 2<sup>nd</sup> polymeric materials are reasonably expected to be derived from an elastomeric material as evidence from the following passage: "... *curing is used as a broad term which is intended to cover vulcanization of rubber compounds used in making the belt defining sleeve 57.*" (col. 6 lines 52-56). In any event, such would have been obvious in the art as such is a notoriously common practice in the art as exemplified in the teachings of Rosenboom et al. Moreover, it would have been imperative to reduce the pressure within the drum and the pressure between the jacket and curing device to an ambient pressure before the drum/sleeve/jacket is removed from the curing device by venting the 1<sup>st</sup> and 2<sup>nd</sup> pressurized steams to a collection station to prevent anyone from being hurt pressurized steam. While Brooks teaches optionally providing a belt sleeve with fabric layers and reinforcing materials depending on the desired characteristics of a finished belt (col. 6 line 65 to col. 7 line 3), Brooks does not explicitly suggest providing a nonwoven web to a 2<sup>nd</sup> elastomeric layer. However, it would have been obvious in the art to provide a non-woven web to a 2<sup>nd</sup> elastomeric layer in a process taught by Brooks, because it is well known in the art to provide a nonwoven web facing layer to a ribs section of a belt as exemplified in the teachings of Rosenboom et al (col. 2 lines 19-38).

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Rosenboom et al does not teach evacuating air within curing device after the drum/sleeve/jacket is placed the curing device. However, it is a notoriously common practice in the art to evacuate air in a molding device after layers to be molded together are placed the molding device to remove air pockets that may be trapped between the layers as exemplified in the teachings of Noto (col. 2 lines 17-28). Fix is cited to as further evidence it is known in the art to apply vacuum to a mold before and during a molding operation (col. 2 lines 33-56; example 1).

With respect to claim 2, one in the art would have determined, by routine experimentation, an evacuation time which is needed to ensure that substantially all air packets between layers are removed. Absent any showing of unexpected benefit, such is taken to be a result effective variable.

With respect to claim 6, to prevent noxious gases generated during a curing operation from substantially escaping to the environment, it would have been obvious in the art to vent the gases to a gas collection station for disposal or incineration. Since a non-woven web is air pervious, it would be natural to vent generated gases through a nonwoven web portion of a belt sleeve.

4. Claims 3-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brooks (US 4,106,966) in view of Resenboom et al (US 6,464,607) as applied to claim 2 and further in view of Nagata et al (US 6,739,854).

Brooks is silent on the operating pressure and operating time for curing a belt sleeve. In particular, Brooks does not teach exerting a steam pressure of 175-235 psig outside a

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mold shell (claim 3), steam pressure of 85-210 psig for 2-10 minutes inside a mold (claim 4) , and curing time of 10-20 minutes (claim 5).

However, as noted by Nagata et al, drawn to making transmission belt, "[t]he exact conditions for vulcanization are not critical, as those skilled in the art are familiar with all critical parameters." (col. 6 lines 13-41). Absent any showing of unexpected benefit, the recited operating conditions in these claims are taken to be result effective variables, routinely optimized by those versed in the art. For these reasons, these claims would have been obvious in the art making transmission belt using a process taught by Brooks.

5. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Brooks (US 4,106,966) in view of Rosenboom et al (US 6,464,607) and Fix (US 3,656,360).

The discussion of the Brooks and Rosenboom et al patents set forth in numbered paragraph 4 is incorporated herein.

As for a limitation of venting gases, such would have been obvious in the art, because it is old in the art to apply suction pressure during a heat-molding operation to remove gases from a mold. To prevent noxious gases generated during a curing operation from substantially escaping to the environment, it would have been obvious in the art to vent the gases to a gas collection station for disposal or incineration. Since a non-woven web is air pervious, it would be natural to vent generated gases through a nonwoven web portion of a belt sleeve.

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***Conclusion***

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sam Chuan C. Yao whose telephone number is (571) 272-1224. The examiner can normally be reached on Monday-Friday with second Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Blaine Copenheaver can be reached on (571) 272-1156. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Sam Chuan C. Yao  
Primary Examiner  
Art Unit 1733

Scy  
05-16-05